Research Article

Modular System and Students Psychomotor Performance

Journal of Tourism, Hospitality & Culinary Arts (JTHCA)
2016, Vol. 8(1) pp 17-34

Reezlin Abdul Rahman*
Mohamad Amer Hasbullah
Sungai Petani College Community, Malaysia
ple3343@gmail.com

Mohd Salehuddin Mohd Zahari
Faculty of Hotel and Tourism Management
Universiti Teknologi MARA Puncak Alam, Malaysia

Abstract
Many technical institutions in this era are seriously focusing on providing the individuals, especially the young with solid skills through hands-on or practical ability. This approach, as argued by many scholars is more holistic enable students to meet the industry need and increase their employability rates. The implementation of the modular system is one of the ways to master students' skills and improve practical knowledge in specific areas. This study empirically investigates the effectiveness of basic western cuisine as part of the culinary arts modular program in Malaysia community colleges toward students' psychomotor performance. Using triangulation approach of self-completed questionnaire and interview, some useful insights were obtained. The introduction of the basic western cuisine module is creating promising outcomes. The module is gradually enhancing students' knowledge, skills, confidence level and psychomotor performance, which enable them to at least prepare the western food ranging from breakfast cookery to simple appetizers, main courses, and desserts. This positive indication, although in the early stage has given the implications for students, lecturers, parents, ministry of higher education, hospitality and foodservice industry in general.

Keywords:
Effectiveness, basic western cuisine, community college, modular system, psychomotor performance

1 Introduction

Education, skill, and training are the integral elements of the human capital development of any country. Most jobs in this challenge economic growth not only require knowledge but training and skills in specific areas like automotive mechanics, nursing, computer programming, multimedia training and many others. In line with

this notion, many technical institutions are focusing on providing the individuals, including the young with less academic capability with solid skills through hands-on or practical rather than theoretical aspects or classroom per se (Hughes, 2003). This approach, as argued by many scholars enables students to meet the industry need and increase their employability rates (Schultz, 1993; Yasmeen, 2010: Edward, 2009 and; Mortenson, 2003). Neeman and Banghart (2001) regard the relationship between academia and industry must be bridged to minimize the gap which involves designing, delivery, and assessment of the specific courses. The implementation of curriculum emphasis on hands-on activities is one of the ways to master students' skills and improve knowledge in specific areas (Yusuf, 2006). Kazis (1996) argued that the work-based learning, apprenticeship, and dual systems in the curriculum should be part of the students training and the development of a school-to-career system which can equip them for future performance should be fostered. Also, the work-based learning should not just be implemented to the full-time students but include the process of re-skilling, and up-skilling the unemployed degree holder, jobless, job seekers and those who would like to upgrade their skills, and this physical training is popularly known as a modular system.

Modular system education has been practiced in many developed countries. Through this module, countries like Germany and Australia have successful developing the manpower for the industries. In Germany, the Technical and Vocational Education and Training (TVET) emphasize on 30 percent theory and 70 percent on hands-on practices to fill the gap between education and industry need. Similar to the Technical and Further Education (TAFE) in Australia whereby the comprehensive modular system which combining the academia and industrial participation is proven to be one the best approach in developing industry manpower. This modular system has been followed by many other developing countries in the globe including Malaysia.

With the objectives to equip the school leavers, communities and producing an adequate supply with relevant knowledge, skills and sustain a flexible, agile and mobile workforce, Malaysia through the Community Colleges has recently implemented a short course of modular programs. This program runs between 3- 4 months with one subject for each module and students will be awarded certificate after completing each module. In addition, graduates are allowed to proceed with second modular with another certificate and all in all; they are eligible to complete all the modules (8 modules) in a two-year period. Similar to TEVT and TAFE, the approach of each modular emphasizes 75 percent on practical, hands-on and 25 percent on a theory which industry is their place of training on top of college laboratory exposure (MOHE, 2010). This modular system involves all the short courses relating to automotive, motorboat, aquaculture, air conditioning, carpenter, building construction, tourism including culinary arts and many others.

In regards to Certificate in Culinary Arts, the curriculum is based on the idea and effort from the academia and industry experts through the actual job task in the hotel or food service industry. All the Community Colleges in the country which offer a certificate in culinary arts have been given the mandate to run the program. Basic

western cuisine besides others is one of the pilot module program offers which aim to train students to have some form of proficiency in preparing this famous cuisine. Despite this, there are no empirical evidence available so far concerning the effectiveness of the module. In another word, to what extent the effectiveness of a modular system which relates to knowledge, skill, level of confidence toward students' psychomotor performance of the related subjects is not known and yet to be assessed. With that, this study empirically diagnosing the effectiveness of basic Western as part of the Malaysia community college modular system toward students' psychomotor performance. this primary objective is further support with the immediate objectives a) examine the effectiveness of the basic western cuisine module on students' knowledge, skill and confidence level; b) examine students' psychomotor performance of the basic western cuisine module and; c) validate student's psychomotor performance of the basic western cuisine module through lecturers' feedback.

2 Literature Review

2.1 Modular System

Vocational scholars view a modular system is an independent unit or subdivision of the educational organization (Raffe, 2002; Üstün, 2010; Edward, 2009; Yasmeen, 2010). It is a self-contained, internally consistent and independent unit of the subject matter of a course which also comprises guidelines for teaching, learning and testing through mutual relations between institutions and industry (Schwaller, 2002). Each unit or block plays a significant role as part of flexible learning. David (2002) argues the introduction of a modular system is owing to a growing heterogeneity of the student population, an increasing need from employers for skill workers and rapid changes in occupational content caused by technical and organizational developments in trade and industry. Rafee (2002) notes that the major concerned about modular curriculum are the learning outcomes, the motivation of the students and school output. The modular bridged several known gaps in vocational education between theory and practice, between learning in school and learning on the job and between education and work as a whole. The process includes building the standards for qualifications for skill assessment procedures, criteria, and procedures for recognizing /crediting equivalents, including skills that have acquired through work experience and developing procedures for certifying non-formally and informally acquired knowledge.

The concept of the teaching modular system is more precise, focus and provide learning that student can integrate and effectively apply. This system not only attracts those who are interested in skill-based learning but increase the individual student motivation, discipline, job skills, personal responsibility and ability to connect the college to the real industrial realm (Young, 2001). Many countries have changed their educational system from the conventional to the modular learning concept in meeting the needs of the industry, and Malaysia is without exception. Schwaller (2002) suggests in addressing the lifelong learning to students and public; the modular system is the suitable learning method, and the lecturers should be competent in handling the

tasks. Hsu (2000) looks on the competent of the lecturers in teaching nursing education module, and effective clinical teaching requires expert knowledge, clinically competent, teaching knowledge, strategy and also professional nursing identity. Excellence in the teaching modular will educate the future nursing professional to meet the society's needs.

2.2 Knowledge

According to Ganesh (2000), Knowledge is an organized set of combination between ideas, rules, procedures and information. Davenport and Prusak (1998, pp 5) describe knowledge as a fluid mix of frame experience, important value, contextual information and expert insight that provides a framework for evaluation and incorporation of new experience and information. Knowledge is gained through experience or education and develops the understanding of the person, and the acquisition of it involves cognitive processes such as perception, communication, learning, association and reasoning (Marakas, 1999). It relates of how confident a person thinks based on his understanding. Tacit and explicit are the two types of knowledge (Nonaka, 1994). Tacit knowledge exists from the cognitive learning, mental models, and technical skills that are internal to a person. Explicit on the other hand is the knowledge that has been encoded through some media and external to a person such as a paper document, electronic database and file and operating procedure. Eraut (1994) states six types of knowledge that can be used to understand the management knowledge. These can also be adopted into the scenario of working knowledge for entry level. a) knowledge of people: saw individuals in difference perspective and obeys the instructions given; b) situational knowledge: is used for developing a relationship and effective decision making; c) knowledge of practice: is used to identify policies and practice of the organization; d) conceptual knowledge: is the epistemology (theories, concept, and ideas) that relate to individual memory on related jobs; e) process knowledge: is the process of getting a job done and; f) Control knowledge: is to control ones' behavior to attend to a job task efficiently.

In handling job task given by the organization or industry, knowledge influences workers by providing the ownership of information, facts and principles to become competent in the works. Black (1990) however, claimed that all the above-mentioned knowledge must be supported with cognitive skill. Kester (2001) named two types of cognitive skills that relate to knowledge and competence which are operation on knowledge and operation with knowledge. Operation on knowledge – is new knowledge appears from the existing knowledge. In another word, the existence knowledge has become deeper due to exploration when the job is implemented. Operation with knowledge - working with this knowledge is supported and focuses on the successful result and product or workers' existence knowledge is applied to the real job.

Understanding as a state of consciousness of knowledge and it is important in the process of learning activities (Barnett, 1994). Knowledge and understanding are interrelated and prerequisite to competent performance (Eraut, 1994; Mansfield,

1988; Black & Wolf, 1990) while the study of knowledge and how it is acquired is closely related to the "epistemology" which is the process of logically through facts determined by the experiments (Campbell & Wasco, 2000). Epistemology in another word focuses on individual means of acquiring knowledge, how individual thinks and how he or she can differentiate between truth and falsehood through empiricism and rationalism. Empiricism is the knowledge obtained through experience while rationalism is the knowledge that can be acquired through the use of reasons (Campbell & Wasco, 2000).

2.3 Competency and Skill

The review of literature addressing competency seems to invariably depend on of the perspectives. Jauhari (2006) refers it to a combination of skills, human behavior, observation and applied knowledge that give an organization a competitive advantage to become successful. Boyatzis (1982) defines competency as a capability or ability or any characteristic or abilities that enhance a job holder's ability to perform, and it cannot be separated from personal characteristics and professional skill (Levy-Leboyer, 1996). Both are interrelated and support each other in the process of fulfilling the duty requirement. The competitiveness of the workers is based on their competency and capability (Barney 2003), and capability is the foundation of core competency or how the workers' ability to perform actions (Coulter & Coulter, 2002). From the student perspective, it denotes the characteristics of a student that lead to the demonstration of skills and abilities, which result in effective performance within a specific area (Wan, 2002). In this sense, students must achieve the competency and skill standard set by the institutions to be part of achieving program goals, and they have to be adapted and to be more aggressive and confident in performing actions (Chin & Wu, 2010).

Boyatzis (2008) asserted competency is based on work performance and proposed three factors that contribute to the success of maximum performance through Contingency Theory model. He argues that the correlation between the needs of the job demands, the organizational environments and a person's talent and capability enhancing the high level of performance. Finn (1993) suggested three main areas that concern behavioral approach which will stimulate the workers to achieve competence in their works: i) intellectual cognitive; ii) attitudinal dimension and; iii) performance. The characteristic of selective workers is set as the benchmark in producing the competency criteria for specific job, and the competitiveness of the workers is based on their competency and capability (Barney, 2003). Boyatzis (1982) declared that three clusters should be looked over to achieve maximum competencies; a) expertise and experience; b) knowledge (declarative, procedural, functional and metacognitive) and; c) assortment of basic cognitive competencies (memory and deductive reasoning). Wan (2010) believed that cognition, skills, and attitude were the professional competence require for catering personnel in an international tourism, hotel and hospitality while Kuo (2002) indicated that that professional competence denotes that capability required for taking the job responsibilities and task for that professional position with a scope covering cognition, skills and affections.

2.4 Psychomotor Performance

Psychomotor is related to the movement or muscular activity associated with mental and affect processes and it connects to the physical skills and the ability to move, act, or manually manipulate the body to perform a physical movement (Mitchell, 1997). With learning perspective, psychomotor is closely associated with skill based and the learning of skills (Schwaller, 1995) and the development of skills requires practice and it is measured regarding ability, speed, precision, distance, procedures, or techniques in execution (Simpson, 1972). Based on the Taxonomy Bloom (Huitt, 2009) perception, set, guided response, mechanism, complex overt response, adaptation, origination and words are the seven major components of psychomotor skills:

i. Perception: The ability to use sensory cues to guide motor activity. Ranges from sensory stimulation, through cue selection, to translation. *Keywords: chooses, describes, detects, differentiates, distinguishes, identifies, isolates, relates, selects.*

ii. Set: Readiness to act. Includes mental, physical, and emotional sets. These three sets are dispositions that predetermine a person's response to different situations (sometimes called mindsets). *Keywords: begin, displays, explains, moves, proceeds, reacts, shows, states, volunteers.*

iii. Guided Response: The early stages of learning are the complex skills that include imitation, trial, and error. Adequacy of performance is achieved by practicing. *Keywords: copies, traces, follows, react, reproduce, responds.*

iv. Mechanism: This is the intermediate stage in learning a complex skill. Learned responses have become habitual, and the movements can be performed with some confidence and proficiency. *Keywords: assembles, calibrates constructs, dismantles displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes and sketches.*

v. Complex Overt Response: The skillful performance of motor acts that involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinated performance, requiring a minimum of energy. This category includes performing without hesitation and automatic performance. For example, players are often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football because they can tell by the feel of the act what the result will produce. *Keywords: assembles, builds, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches.*

vi. Adaptation: Skills are well developed, and the individual can modify movement patterns to fit special requirements. *Keywords: adapts, alters, changes, rearranges, reorganizes, revises and varies.*

vii. Origination: Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly

developed skills. *Keywords: arranges, builds, combines, composes, constructs, creates, designs, initiate, makes, originates.*

The development of psychomotor skills and the ability to perform the task are critical and the capability to perform the skill is based on the learning of how to do it correctly (Schmidt & Lee, 2005; Wulf, Shea, & Lewthwaite, 2010). Schmidt and Lee (2005) highlighted three phases in developing student psychomotor skill; a) cognitive - students must understand the skill and know how to perform accurately; b) associative - refining movements to become more consistent in working performance and; c) autonomous - keep practicing until the skill is automatic and the step has become spontaneous. Girot (1993) argues that the opportunity to practice repetitively and getting feedback from the performance will enhance students' psychomotor skill or skillful, however, without frequent practice, psychomotor skills cannot be retained.

3 Modular Program in Malaysia

The Technical and Vocational Educational Division (TAVED) under the Malaysian Ministry of Higher Education was established in 1964 (MOHE, 2010) with the aimed to promote technical and vocational education in the country and after this, the first polytechnic was established in 1969. The division was then changed to the Technical Education Department (TED) to conceptualizing the broader scope of policies, expanding and ensuring the direction of technical and vocational education compliance with industry need and with additions to polytechnics, community colleges were set up in 2001. Such colleges were designed to give opportunity and train the school leavers who are not very academically inclined and community with technical and vocational Education (MOHE, 2010).

Similar to TVET (Germany) and TAFE (Australia), the fifty-nine Malaysia Community colleges are offering courses mainly related to crafts, technical and engineering fields with 75 percent of the curriculum emphasize on hands-on or practical compared to 25 percent theoretical aspects (Ministry of Higher Education, 2009). The courses to name a few are ranging from automotive, fashion, engineering and computer to hotel catering, culinary arts and food processing. Realizing the importance of the community college's contribution in the provision of skill manpower to the industry, the government recently has given a mandate to certain community colleges in running a modular program as a pilot project which emphasized on short courses (MOHE, 2010). This module allows students to take short courses which run between 3 to 4 months based on their interest. Each module taken qualifies students to get the certificate Malaysia, and they are also allowing proceed to the next four modules which will eligible them to get the diploma. The curriculum is also modeled through the Outcome Based Education (OBE) and Competency Based Education (CBE).

4 Methodology

4.1 Sampling and Instrument

As this study aims to look at the effectiveness of basic western cuisine as part of the Malaysia community college modular system toward psychomotor performance from students' perspectives and validate it through lecturer's opinions, triangulation approach or mix method which combines the quantitative and qualitative were chosen for information gathering. These approaches are opted in obtaining more clear insights or in-depth findings on the issue investigated. Populations for quantitative information were chosen among students who are on the verge finishing their basic western cuisine module in six selected Community Colleges. This is to ensure that the result would be based on actual students experienced. For the qualitative, one lecturer from each six selected Community Colleges who is involved in teaching the module is chosen through an interview. These lecturers are believed to have vast experience in teaching the module and would provide relevant and valuable information.

Two (2) instruments were employed, a self-completed questionnaire for the students and semi-structured interview questions for the lecturers. A survey questionnaire was divided into three (3) major sections. Section A focused on student demographic like age, gender, race, religion, location of upbringing, an educational channel, working experience and family working background while Section B assesses student's knowledge, skill, confidence level based on the learning outcomes of the curriculum. Section C was designed in assessing student's psychomotor performance, which relates to the ability to perform the basic western cuisine. Students were required to translate their view on a five type Likert scale ranging from 1 with "strongly disagree" to 5 "strongly agree." A pre-testing of the instrument was conducted among thirty (30) students from the Sungai Petani Community College. Comments and recommendations were noted and taken consideration in completing the final draft of the research instrument.

On the qualitative instrument, the standardized interviewing method was developed with a pre-determined set of open-ended questions. The first question asks lecturers teaching experience following by four other questions relating to the student's knowledge, skills, confident level and psychomotor performance. A funneling technique which emphasizes from general question to the specific one was used in the question development.

4.2 Data Collection Process

Before the actual survey, six respective community colleges that are offering the basic western cuisine module were contacted to obtain permission in undertaking the survey. The dates, times of the interviews and surveys were arranged based on the convenience of the lecturers. The process of data gathering (survey and interview) was personally undertaken by researchers. The process was running into two sessions (2) with the first session involving students while the second session is interviewing the lecturers. Before each session resume, both students and lecturers were briefed on

the aims of the study and purpose of the survey and interview conducted. For students, they were informed that their participation is voluntary and free not to complete, or not to answer any questions and all information provided were strictly confidential that no individual respondents would be identified. With no obvious problem, a total of 223 questionnaires was collected. For the interview, each session lasted between thirty minutes to one hour on average, and all sessions were tape-recorded. Overall, researchers were fully satisfied with the commitment and cooperation gave by the students and lecturers during the data collection processes.

4.3 Characteristics of the Sample

Frequencies showing that 90.1 percent (n = 210) students age were between 18 and 22 years old, 6.3 percent (n = 14) above 38 years old and 2.7 percent (n= 6) in the age range between 23 and 27 years old. Number of male students exceeded the female with 66.8 percent (n =149) against 33.2 percent (n = 74). This is not surprising as reported by the Ministry of Higher Education most of the technical programs are popular among male students compared to female counterpart and in reality, culinary work is being dominated by the male workers. Malay students accounted 95.1 percent (n = 212) compared to Chinese 2.7 percent (n = 6), Indian, 1.3 percent (n = 3) and others 0.9 percent (n = 2). As Malay synonymous with Islam, it is surprising that the majority of the respondent is Muslim or 95.1 percent (n = 212), followed Buddhist by 1.8 percent (n = 4), Christian with 1.8 percent (n = 4), Hindu with 0.9 percent (n = 2) and others only 0.4 percent (n = 1). 45.7 percent (n = 102) of the students were from the village as opposed to 42.2 percent (n = 94) from the city upbringing and 12.1 percent (n = 27) were from a small town. On previous work experience, only 31.8 percent (n = 71) of students used to work in the culinary field compared to 68.2 percent (n = 152) who did not have any culinary working experience and 46.6 percent (n = 104) reported of having friends or relative working in the hospitality industry while 53.4 percent (n = 119) didn't have any relatives in the industry.

5 Quantitative analysis

Before preceding the analysis, a test of internal reliability was initially undertaken to see how much consistency presents, among the ratings given by students in all the data collected. The assessment was separately undertaken for Section B and C. The result showed that the instrument and items used were reliable with coefficient alpha value 0.726 for section B and 0.617 for section C. As most of the items in the survey instrument are newly developed, the underlying relationships within them were statistically processed with exploratory factor analysis. Using Principal component analysis with varimax rotation and Kaiser Normalization on the thirty-six items with a factor loading of 0.30, four factors was extracted with only two items deleted. The four factors were psychomotor performance (PSY with eight items), knowledge (KNW with seven items), skill (SKIL with ten items) and confidence level (CONF with nine items).

5.1 Effectiveness of Students Knowledge

In looking at the effectiveness of students' knowledge, a descriptive statistic was used. The result in Table 1 revealed that the majority of the respondents admitted that they are gaining knowledge of the basic western module. This clearly can be seen from a greater level of agreement given to all items in this section analysis. Students believed that the module helps them to know basic western cooking ingredients (M = 4.20, item 1) and basic western cuisine (M = 4.20, item 2). With that feeling, they also believed that the module helps them understand the right cooking method (M= 4.22, item 3), identify the proper cooking technique (M=4. 23, item 4), understand the function of decoration in food (M=4. 23, item 5) and gathering knowledge about the cleanliness and safety value (M = 4.22, item 6), In addition, they also agreed that the module helps them to identify food composition (M = 4.22, item 7) and expanding their knowledge in western cuisine (M = 4.17, item 8).

Table 1: Mean score of the students' knowledge

No	Items	n	Mean (M)	S.D
1	This module helps me to know basic western cooking ingredients	223	4.20	.677
2	This module helps me to know the basic western cuisine	223	4.20	.650
3	This module helps me to understand the right cooking method	223	4.22	.673
4	This module helps me to identify the right cooking technique	223	4.23	.650
5	This module helps me to understand the function of decoration in food	223	4.23	.657
6	This module helps me to gather knowledge about cleanliness and safety value	223	4.22	.641
7	This module helps me to identify more about food composition	223	4.22	.653
8	This module helps me in expanding my knowledge in western cuisine	223	4.17	.685

Scale: 1 = Totally Disagree, 2 = Disagree, 3 = Neither, 4 = Agree and 5 = Totally Agree

5.2 Effectiveness of Students' Skill

On the effectiveness of skill (Table 2), the majority of students agree that basic western cuisine module gradually enhancing their skill which enable them to at least prepare the western food ranging from breakfast cookery (M = 4.25, item 1) to simple appetizer (M = 4.26, item 2), main courses (M = 4.28, item 3), desserts (M = 4.27, item 4) with the right texture and taste (M = 4.27, item 5). Students believed that the module develops their ability to prepare food presentation properly (M = 4.25, item 6) and practice good sanitation in food preparation (M = 4.23, item 7).

Table 2: Mean score of the students' skill

No.	Items	n	Mean (M)	S.D
1	This module helps me to upgrade my cooking skills in breakfast preparation properly	223	4.25	.638
2	This module helps me to upgrade my cooking skills in starter food preparation properly	223	4.26	.618
3	This module helps me to upgrade my cooking skills in main course preparation properly	223	4.28	.583
4	This module helps me to upgrade my cooking skills in dessert preparation properly	223	4.27	.608
5	This module helps me to prepare the right texture and taste in western cooking	223	4.27	.632
6	This module helps me to prepare western food presentation properly	223	4.25	.652
7	This module helps me to practice good sanitation habits in food preparation	223	4.23	.650

Scale: 1 = Totally Disagree, 2 = Disagree, 3 = Neither, 4 = Agree and 5 = Totally Agree

5.3 Effectiveness of Students' Confidence Level

Concerning confidence level, students agreed with eight (8) items used the instrument (Table 3). They agreed that culinary field is fun and challenging (M = 4.36, item 1) and believed knowledge gained from the module benefit in their career (M = 4.36, item 2). They were satisfied with the offer of the module (M = 4.33, item 3), agreed that the culinary field provides more job offer compared to other fields (M = 4.34, item 4) and the module give exposure to the real working environment (M = 4.35, item 5). Also, they were agreed that they were satisfied with their career choice (M = 4.38, item 6) and confidence of preparing the products according to the modular objective (M = 4.33, item 7) and overall getting the confidence of preparing basic western cooking (M = 4.34, item 8). In addition, two items have received the highest level of agreement. The magnitude of the mean score above five (5.00) points indicates that students were strongly agreed with the statements. Students strongly agreed that their knowledge in western cuisine has increased (M = 4.57, item 9) and able to show safety and sanitation practice (M = 4.56, item 10).

Table 3: Mean score of the students' confidence level

No.	Items	n	Mean (M)	S.D
1	Culinary is a fun and challenging career field	223	4.36	.552
2	I believed knowledge that I studied and gained from this module have benefited in my career later	223	4.36	.527
3	I feel satisfied with the offer from this module	223	4.33	.591
4	I believed culinary field has more job offer for me compare to another field of the job	223	4.34	.548
5	This module gives exposure about reality in real working environment later on	223	4.35	.549
6	I'm satisfied with my choice of career	223	4.38	.547

7	I confident of preparing the products according to the modular objective	223	4.33	.575
8	I'm getting the confidence of preparing basic western cooking	223	4.34	.564
9	My knowledge in Western cooking has increased	223	4.57	3.37
10	I able to show safety and sanitation practice	223	4.56	3.44

Scale: 1 = Totally Disagree, 2 = Disagree, 3 = Neither, 4 = Agree and 5 = Totally Agree

5.4 The Effectiveness of Basic Western Cuisine Module on Student's Psychomotor Performance

This section analyzes the effectiveness of basic western module towards student's psychomotor performance. The result in Table 4 clearly supports the preceding analyses that basic western module enhances students' psychomotor performance. This is manifest when the majority of students expressed that they were able to differentiate the types of western breakfast (M = 4.37, item 1), accomplished western breakfast items (M = 4.37, item 2), handling techniques of commodity cutting (M = 4.35, item 3). They also expressed that able to prepare basic appetizers (M = 4.37, item 4), main courses (M = 4.38, item 5), used the right techniques and method in preparing dessert (M = 4.38, item 6), able to identify the right texture and taste based on recipe standard (M = 4.33, item 7), arrange the food composition and presentation (M = 4.32, item 8) and able to assemble the dishes according to time required (M = 4.31, item 9).

Table 4: Mean score of the students' psychomotor performance

No.	Items	n	Mean (M)	S.D
1	I am able differentiating types of western breakfast	223	4.37	.537
2	I can accomplish western breakfast dishes	223	4.37	.538
3	I can identify types and techniques of commodity cutting	223	4.35	.549
4	I can prepare appetizer dishes	223	4.37	.546
5	I can prepare main course dishes based on standard recipe	223	4.38	.540
6	I can follow the right techniques and method in preparing dessert	223	4.38	.539
7	I able to identify the right texture and taste based on recipe standard	223	4.33	.606
8	I able to arrange the food composition and presentation	223	4.32	.603
9	I able to assemble the dishes according to time required	223	4.31	.629

Scale: 1 = Totally Disagree, 2 = Disagree, 3 = Neither, 4 = Agree and 5 = Totally Agree

6 Qualitative Analysis

6.1 Lecturers Feedback

This section presents the outcomes of interviews with lecturers of selected community colleges. The idea is to validate the quantitative result. A descriptive called pen portrait analysis was used which narrate the experiences and opinion of the lecturers. In a simple way, pen portrait is like a storybook which tells the story from the very beginning to its climax. The lecturer's profile is first highlighted. Four of the lecturers were males, and the other two were females. All of them have been teaching the basic western cuisine more than five (5) years. Two possessed master degree

qualification and the rests holding a bachelor degree in culinary arts. The age ranges were between 32 to 39 years old. Their profiles are simplified and presented in Table 5.

Table 5: Lecturer profiles

Informant	Sex	Teaching Experience	Age	Community College	Education level
1	Male	7	39	Kuantan	Bsc
2	Female	6	35	Langkawi	MSc
3	Male	7	35	Chenderoh	Bsc
4	Male	5	32	Sungai Petani	MSc
5	Female	6	34	Selayang	Bsc
6	Male	7	35	Rompin	Bsc

6.2 Lecturers Opinion on Student's Knowledge

The first question asked, "What do you think about your student knowledge with regards to the basic Western cuisine module?" Hearing to the pattern of answers, all six lecturers have given an almost identical opinion. They admitted that students are grasping better on practical knowledge of the basic western cuisine compared to theoretical knowledge. The practice of embedding theory in the practical classes is slightly less efficient. The majority of them agreed that student's theoretical knowledge could be more improved if both are run separately. Lecturer 1 for instance, said;

"Students' knowledge on practical enhances very well, but slowly on theory owing to lack of those classes. There many things for students to catch up and these are evident as we lecturers faced some difficulties to assess their knowledge beside practical performance. In this sense, the theory of cooking is not just learning by experience but need a formal class."

Lecturer 3 on views that;

"No doubt cooking knowledge is essential. However, a student needs a lot of time to absorb theoretical aspect on every topic they learned. Therefore, there must be a specific theory class to increase student knowledge. Learning through an experience like this module can be supported with one or two separate theory classes. No doubt students can produce products but less able to explain the underlying reasons behind it."

In the same vein, lecturer 6 demystified by expressing;

"I have been involved in teaching this module since it started. I found that students' knowledge, creativity, and critical thinking are augmented. They are following orders on whatever process of cooking. Their ability to ask the question, however, is not there. They didn't know why certain things are being done like that".

6.3 Lecturers Opinion on Students' Knowledge Skill

The second question asked 'What do you think of your student's skill with regards to the basic western module? Again, all six lecturers have given almost identical answers. The enhancement of students' skill occurs throughout practical classes. The intensive training and a full day in the kitchen increase their skill. Eloquently quoted from lecturer three that;

"Students' skills are improved. The ability to perform the task given based on the standard recipe is great. Of course, there is a lot more to learn and to teach, but the present syllabus is sufficient and covered the basic skill."

Lecturer 6 notes that;

" It is evident that the syllabus gives a basic knowledge and skill to students. This can clearly be seen when students improved their practical skills and showing good progression in accomplishing the job task. Well, it is still for them and us to continuously develop their skills and teaches them to be toughed and resistant to work long hours and complying with the nature of the industry".

Lecturer 2 expressed that;

"Skill is all about practice and more practice to make them perfect. This module makes students' skillful and performs well, although more room for improvement. We lecturers must facilitate and guide them for excellent skill".

6.4 Lecturers Opinion on Students' Confidence Level

Concerning the student's confidence level, a question 'what do you think about the student's overall confidence level towards the basic western module?" was probed. Each of the lecturers believed that students are doing the right things based on their understanding and developing a level of confidence, although slight confusion on theoretical aspects and need to be monitored by the lecturers. In other words, students epistemological need to be developed carefully.

Lecturer 4 eloquently expressed that;

"Students' confidence level enhances as they can do more things and eager to show their talent and competing among them. I don't mind if they did something wrong as long they are developing their level of confidence."

Verbatim quotation from lecturer one is that;

"Students' confidence level of practical skills is good. This clearly evident when they are showing what they gained and of course some small mistakes unrealized".

Lecturer on the other hand 2 expressed;

"With guidance, students understand better and their confidence levels increased throughout the module. I am quite pleased and hope this will happen continually better if they proceed into the next module".

6.5 Lecturers Opinion Students' Psychomotor performance

The last question probed was 'what do you think about students' psychomotor performance? In each interview session, most of the lecturers confidently expressed that the psychomotor performance stipulated in the objectives of the module are accomplished. This evidence when at the end of module students' able to prepare some of the famous western food ranging from breakfast cookery to simple appetizer, main courses and desserts and ready to be in the real working environment and confident in taking an entry job in the hospitality industry.

Lecturer 3 for instance, commented;

"My students able to perform well and this is achieved the psychomotor objectives. The entire task given accomplished with a small error, but still acceptable".

Lecturer 5 expressed that;

"In term of performing learning activities, I can say students are achieving the psychomotor performance as they are slightly creative and innovative in their work. Hopefully, their psychomotor performance continuously increases if they proceed into the second module which specifically focusing on Eastern cuisine".

7 Discussion, implication, and conclusion

This study highlights a range of interesting and significant findings. Students saw that they are gaining knowledge of the basic western cuisine module as it helps them not only to know the basic ingredients of western cuisine but understand the right cooking methods, techniques, cleanliness and safety practices during the cooking process as well as the function of garnishing in food. The module is gradually enhancing their skills which enable them to at least prepare the western food ranging from breakfast cookery to simple appetizers, main courses, and desserts. The module also exposed them to a real kitchen working environment which gradually boosting their confident in taking an entry job in the industry. These students' feelings are further supported by more realistic lecturers' opinion that knowledge, skill, confidence level and students' psychomotor performance enhances and meeting the objectives of the module. This promising indication is directly given implications for students, lecturers, parents, Ministry of Higher Education, hospitality and foodservice industry in general. Students perhaps feel that the module meets their expectations and satisfied with their program choice and feel enchanted with their future career in the industry and prospective employment. This is, in another word that their educational experience itself is worth, and they hopefully end up clearer in what they want in their future life. Students may also feel that their parents' investments of money in their education, along with the effort and time spent for personal skill development during the module worthwhile. This may further create motivation for them to do well in subsequent industry work. For the government, the funding through taxpayer dollars for higher hospitality education may also have been used efficiently. Another wider

implication is related to industry practitioners' industry that they may be able to recruit qualified and sufficient skillful entry level workers in the future.

This study finding also clearly signifies that the basic western cuisine module introduces in selected Community College as a pilot project at this stage is showing some good indication and consider effective. With this indication the present module not only needs continuously being carried out, but other modules related to the psychomotor skill also need to be introduced. Besides this, students' proportion in all Community Colleges in addition to the school leavers should be widely open to the young adult (25 - 40 years old). In addition, the theoretical components which are currently embedded in practical classes it is, therefore, worth to be separated without reducing the practical class contact hours. In another word, 2 hours per week at least must be allocated for theoretical classes. Finally, the government effort in implementing this approach to education and the collaboration between academic institutions and industry practitioners should continuously be held and improved. This effort, in the long run, will ensure the government's intention of giving opportunity, employment to less academic individual and producing skills qualified workers in the local and as well as international hotel industry will gradually be achieved.

References

Barnett, R. (1994). The limits of competence. Buckingham: SRHE and Open University Press.

Barney, J.B. (2003). Resources, Capabilities, Core Competencies, Invisible Assets and Knowledge Assets: label proliferation and theory development in the field of strategic management. In Helfat, C.E. (Ed), The SMS Blackwell Handbook of Organizational Capabilities, Blackwell, 422-426.

Black, H. and Wolf, A. (1990) Knowledge and Competence: Current Issues in Training and Education, London: HMSO.

Black, J.W. (1990). Knowledge-based abstracting. Online Information Review, 14 (5), 327 - 342

Boyatzis, R.E. (1982). The Competent Manager, New York, NY: John Wiley and Sons.

Boyatzis, R.E. (2008). Competencies in the twenty-first century, Journal of Management Development, 27 (1), 5-12.

Campbel, R., and Wasco, S. M. (2000). Feminist approaches to Social Science: Epistemological and Methodological Tenets. American Journal of Community Psychology, 28 (6), 773-791.

Chin, B.J., and Wu, C.M.(2010). The popular competence of hospitality education in Taiwan: Constructing a baking Curriculum model. The Business Review, 16 (2), 207-303.

Coulter, K., Coulter, R. (2002). Determinants of trust in a service provider: the moderating role of length of relationship. Journal of Services Marketing, 16 (1), 35-50

Davenport, T. H and Prusak, L. (1998) Working Knowledge, Harvard Business School Press: Boston.

David, S. (1999). Varieties of capitalism: the institutional foundations of comparative advantage. London : Oxford Press.

Edward L.W. (2009). Core curriculum courses: a study to determine the impact on vocational-education studies. PhD Thesis, Capella University.

Eraut, M. (1994). Developing Professional Knowledge and Competence, London: The Falmer.

Erickson, R. C. (1985). Measuring psychomotor skills and performance. In J. M. Shemick (Ed.) Perceptual and psychomotor learning in industrial arts education (133-153), Bennett & McKnight Publishing Company.

Finn, R. (1993). A synthesis of current research on management competencies. Working Paper HWP9310.Henley-on-Thames, Henley Management College.

Girot, A.E. (1993). Assessment of competence in clinical practice — a review of the literature. Nurse Education Today, 13 (2), 83-90

Hughes, R.E. (2003). Skill or diploma? The potential influence of skill-based pay systems on sources of skills acquisition and degree programs. Journal Vocational Education, 52 (4), 179 – 183.

Huitt, W. (2009). Bloom et al.'s taxonomy of the cognitive domain. Educational Psychology Interactive. Valdosta, GA: Valdosta State University. Available at: http://www.edpsycinteractive.org/topics/cogsys/bloom.html

Hsu, L. L. (2007). Conducting clinical post-conference in clinical teaching: a qualitative study. Journal of Clinical Nursing, 16 (8), 1525–1533.

Kazis, R. (1996). Revitalizing high schools: What the school-to-career movement can contribute. Journal of JVER Phi Delta Kappan, 77(8), 547-554.

Kester, L., Kirschner, P., van Merriënboer, J. J. G., and Bäumer, A. (2001). Just-in-time information presentation and the acquisition of complex cognitive skills. Computers in Human Behavior, 17, 373-391.

Kuo, C. M (2002). Scientific and professional competence structure of Sandwich teaching sandwich for hospitality department of Taiwan technical ((NSC91). Taipei National Science Council Report of Thematic Research Result.

Levy-Leboyer, C. (1996). La gestion des competences. Les edition d'Organisation, Paris.

Mansfield, B. (1989). Competence and standards. In Competency-Based Education and Training, ed. J. W. Burke (26–38) London: Falmer Press.

Marakas, G. M. (1999). Decision support system in the Twenty First Century, Englewood Cliffs, NJ: Prentice Hall.

Mitchell E. Henke.(1997). The Effects of Three Methods of Computer-Based Instruction (CBI) on Psychomotor Performance of College Students. Ph.D Thesis. Virginia Polytechnic.

MOHE, (2010). Malaysian Ministry of Higher Education, Kuala Lumpur: Dewan Bahasa dan Pustaka.

Mortensen, D. T. (1986). Job search and labour market analysis. In O.C. Ashenfelter and L. Layard, (eds.) Handbook of Labour Economics, Volume II. Oxford, UK: Elsevier Science Publishers.

Neumann, R.B., and Banghart, S. (2001). Industry-university "consulternships": an implementation guide. International Journal of Educational Management, 15 (1),7 – 11.

Nonaka, L. (1994). Una teoria dinamica della creazione della conoscenza organizzativa. FOR, Nos 27-28. pp.7-70.

Raffe, D. (2002). Bringing academic education and vocational training closer together. Working paper for ESRC research project on The Introduction of a Unified System. Centre for Educational Sociology, University of Edinburgh.

Schmidt, R. A., Young, D. E., Swinnen, S., and Shapiro, D. C. (1989). Summary knowledge results for skill acquisition: Support for the guidance hypothesis. Journal of Experimental Psychology: Learning, Memory and Cognition, 15, 352-359.

Schultz, T.W. (1993). The Economic Importance of Human Capital in Modernization, Education Economics, London:Routledge.

Schwaller, A. E. (1995). Instructional strategies for technology education. In G. E. Martin (Ed.), Foundations of technology education (421-442) New York : Glencoe McGraw-Hill.

Simpson E. J. (1972). The Classification of Educational Objectives in the Psychomotor Domain. Washington, DC: Gryphon House

Tenth Malaysian Plan (2010). Economic Planning 2011 – 2015, Malaysia Economic Planning Unit. Kuala Lumpur: Pustaka Negara.

ÜSTÜN, G. (2010). Vocational High School Female Students' Opinions About Application Level of Skill Education. Journal of Faculty of Educational Science, 43, (1), 1-16.

Yasmeen, R. (2010). Human capital development role of HR during mergers and acquisitions. The South East Asian Journal of Management, 4 (1), 55-67.

Young, M. (2001). Educational reform in South Africa (1990-2000): An international perspective. In: A, KraakA and M. Young, (eds.): Education in Retrospect: Policy and Implementation since 1990. Pretoria: HSRC.

Yusuf, A. (2006). Citizenship education: an instrument for unity and stability in Nigeria. PhD thesis, University of Ilorin, Ilorin, Nigeria.

Wan, Y.F. (2002). Evolution of Taiwan Hospitality Education. Journal of Life Application and Science, 3(4).453-464.

Wulf, G., Shea, C., and Lewthwaite, R. (2010). Motor skill learning and performance: a review of influential factors. Medical Education, 44, 75–84.